

Aldersgate Group Response - Towards a Market for Low Emissions Industrial Products

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1. *What type of organisation do you represent? Please select one:

e) Non-Government Organisation (NGO)

2. *Do you represent or hold expertise on a specific industrial sector? If yes, which sector?

The Aldersgate Group is an alliance of major businesses, civil society organisations, and academic institutes. We work closely with organisations from across the economy, including heavy industries such as steel, cement, ceramics, chemicals, and glass; manufacturers such as tyre, automotive, and pharmaceuticals producers; and a number of other sectors from power to retail.

We have a comprehensive industrial decarbonisation policy workstream, through which we have published major reports on [accelerating the decarbonisation of industrial clusters and dispersed sites](#) and [delivering competitive industrial electricity prices in an era of transition](#); and are soon to be publishing a briefing on [establishing strong UK supply chains for low carbon industrial products](#).

We develop independent policy solutions based on research and the expertise and diversity of our members. Through our broad membership, we advocate change that delivers benefits to an ever-growing spectrum of the economy.¹

3. *Do you / your organisation manufacture or purchase industrial products as defined on page 9 of this document? Please select one:

d) Neither buyer nor manufacturer

¹ Individual recommendations cannot be attributed to any single member and the Aldersgate Group takes full responsibility for the views expressed.

6. *Do you agree with the approach to the emissions scope set out in Chapter 1?

Partially. The emissions scope is right to include factors beyond emissions, but should not exclude some or all of a product's scope 3 emissions. To account for a product's lifecycle impact, the emissions scope should include factors such as a product's durability and operational emissions.

Including scope 3 emissions and durability in the emissions scope:

To ensure that all emissions are accurately captured by the definition of 'low emissions', scope 1-3 emissions should be included. In some sectors it is possible to transfer emissions between scopes by using different technology, production, or procurement processes. For example, steel makers could purchase coking agents rather than produce them onsite themselves, moving emissions from scope 1 to scope 3. Including scopes 1-3 will create a more reliable picture of the emissions intensity of different industrial products.

Considering embodied emissions in isolation when creating a low emissions definition would also obscure the value of products such as high-efficiency glazing, which have higher embodied emissions than single glazing, but lead to a much greater emissions saving over time.

Including operational/'use-phase' emissions:

Some products may have a similar level of embodied emissions, but, due to the way they are used, lead to a different level of emissions and environmental impact during their operational phase. For example, the lowest carbon tyre on the market may have higher associated lifecycle emissions if used on a car that is driven aggressively, or could release a higher level of harmful particles, such as microplastics, due to a higher rate of wear on the road. Similarly, some products are also more durable than others, despite similar levels of embodied carbon. For example, different tyres will degrade at different rates depending on how they have been designed (and how a vehicle is driven, as mentioned above). It is important therefore, that a low emissions definition, product standards and procurement rules include factors such as operational emissions and durability. This would incentivise the design and production of more durable and repairable products with lower lifecycle emissions and environmental impact, such as tyres that can withstand a greater level of abrasion.

Going beyond emissions to capture a product's resource efficiency:

We welcome the acknowledgement of the value of circular economy processes such as repair, remanufacture, and recycling. We agree that an emissions-only approach may have limitations for some sectors, and that there are other factors that might affect the climate impact of a product.

When creating product standards, labelling and product-level procurement rules, BEIS should include criteria related to lifecycle emissions and, in certain sectors, recycled material content. Standards on recycled material content should only be applied to materials that exist in abundance or are presently being exported/sent to landfill. This will ensure that inefficient waste handling is discouraged, without creating unrealistic or unachievable quotas on recycled materials that are scarce. To this end, product standards should reflect the availability of different materials on the UK market and be introduced over time to maximise levels of compliance. These standards and targets should be tightened over time, as recyclable materials become more readily available.

Including environmental impact:

It is also crucial that environmental emissions/impacts be accounted for in a definition of low emissions, as product standards should not incentivise a switch to fuels that have a damaging impact on the environment and biodiversity, such as many biomass feedstocks.² To this extent, land use, air and water quality, and soil health impacts must also be considered in the creation of product standards and labelling to reflect the wider environmental impact of a product.

6.2 What do you see as the optimal scope of emissions to be included in the definition of low emissions products in order for labelling and standards policy to be both effective and workable? Could the exclusion of some Scope 3 emissions create any negative impacts?

Scope 1-3 emissions should be included, alongside lifecycle emissions, recycled material content, and the environmental and land-use impact of a product. For more information on the scope of emissions that should be included, please see questions 6 and 6.4.

In order for labelling and standards policy to be both effective and workable, standards should become more stringent over time to account for new technologies, the availability of greater levels of recyclable materials, and increases in resource and fuel efficiency. Similarly, standards should also tighten as companies become better at reporting scope 3 emissions, and verification and monitoring processes improve. For more information on the way in which product standards should become more stringent over time, please see questions 6.4, 8 and 13.

6.3 *Which, if any, Scope 3 emissions categories are essential for inclusion in the assessment for your sector/product(s)? Please specify why you think they should be included.

Both up- and downstream emissions should be included, as well as the operational emissions over a product's lifecycle. In addition, a product's durability should be factored in to a definition of low emissions, to ensure that products with lower lifecycle emissions/environmental impact are incentivised over others with similar embodied emissions. For more information, see questions 6 and 6.4.

6.4 How should the emissions of 'value retained' products (see glossary) be evaluated to allow for comparison with new products?

The way in which the emissions intensity and environmental impact of a product are measured should reflect the benefits of value retained products – namely the resource efficiency gain from reusing materials and the foregone environmental impact of the generation of waste. In most instances, measuring embodied emissions will reflect an increased use of recycled materials and the emissions savings achieved in comparison to products made with virgin materials. When this is not reflected in embodied emissions data, additional factors should be

² Chatham House (Feb 2017) *The Impacts of the Demand for Woody Biomass for Power and Heat on Climate and Forests*

introduced to recognise the benefits of products that have been made with re-used/remanufactured materials.

Developing sectoral benchmarks to incentivise best practices and the use of available waste materials:

Sectoral benchmarks developed to support the development of product standards could be set to encourage the adoption of the best available technologies for decarbonisation and the remanufacture of materials. They can also be used to drive progress towards better design practices that lead to more durable products and a lower level of waste. Benchmarks should reflect the availability of certain materials within a specific sector (such as scrap steel or cullet), and existing best practices and technologies. This would ensure that firms are incentivised to implement options for decarbonisation and greater resource efficiency where they already exist. By basing these benchmarks on the availability of recyclable materials on the market and existing best practice/technology, they can be made more stringent over time to reflect technological progress and improvements to the level of materials recovered and retained in the UK economy.

This would follow a similar philosophy to the UK Emissions Trading Scheme (ETS), which assesses the top 10% most efficient installations to establish a benchmark against which emissions allowances are allocated.

Reflecting embodied, in-use and lifecycle emissions:

Standards that apply to the emissions intensity of production processes should be prioritised in the first instance to allow the market to adapt to new regulation. However, as the relevance of abating emissions – via increased recovery, reuse and remanufacture of materials – will grow as we decarbonise production and continue with fuel switching, so too shall the importance of reflecting the benefit of value retained products. It is necessary therefore, to introduce criteria that measure the benefits of value retained products now, to promote learning and understanding (and a better idea of how government can later implement standards and quotas on material reuse), which then tightens over time to discourage linear production models as opportunities for more circular production become available.

It is important to note that while recycling is one way of the retaining value, reuse, remanufacture, and the avoidance of waste are higher up the waste hierarchy and should be promoted above simply using a certain percentage of recycled materials in industrial products.

6.5 *Are there any limitations of an emissions-only approach to assessing climate impact that may affect your sector/product(s)? Please specify any additional metrics that you think should be included.

An emissions only approach would not always recognise the benefit of creating products with a greater proportion of recycled material content, or those with a smaller impact on the environment (be that via the biodiversity and land-use implications of the fuel used to create them, or the environmental pollutants created upon their use and/or disposal). Operational and lifecycle emissions should be assessed to better understand the climate impact of a product, particularly as they may be more difficult to mitigate, as this provides a need to understand the effect of different policy options now. Crucially, an increased use of recycled materials also leads to greater resource efficiency and lower demand for imports of certain materials. For more information on going beyond emissions criteria, please see questions 6 and 6.4.

8. Do you agree with the approach of setting more stringent emissions levels as the basis for voluntary standards, vs lower-stringency mandatory standards?

Voluntary standards will be an important part of catalysing investment in and adoption of low carbon production processes. They will also be key to ensuring that both producers and government fully understand how a standard will be implemented and affect industry. This is important both to understanding the investments needed to comply with a standard and the reporting, monitoring and verification mechanisms needed to ensure the standard is robust.

However, to really drive innovation, investment and deployment, mandatory standards will need to be introduced to not only provide a floor for the level of carbon/environmental impact of a product, but to create ambition sufficient to drive the commercialisation of low carbon forms of production. In this regard, a mandatory standard would establish a certain and predictable market environment that can help to provide a clear signal to private investors.

Standards should take into account a range of criteria, including the emissions reductions needed to meet industry's net zero targets under the carbon budget, but also those laid out by the Industrial Decarbonisation and Net Zero Strategies: an emissions reduction of at least two-thirds by 2035, and 90% by 2050.³ It is crucial however, that they consider what is currently feasible, as a standard will fail to drive progress if its level of ambition is not achievable with current technologies. It is important that product standards also consider sectoral differences, as what may be achievable for one sector, may not be for another.

As more opportunities for abatement become available, standards should become more stringent as to drive progress towards the broader adoption of the best available technologies, and further investment in those that can reduce emissions and environmental impacts.

9. Do you agree that sector-level definitions are likely to be the most appropriate level of granularity for demand-side policies?

Yes. Different sectors have different routes to net zero and the extent to which a product can be decarbonised, recycled, reused and remanufactured, will vary significantly. For example, it is possible to make zero carbon steel, but it may not be possible to produce all chemicals products in a zero carbon way. It is therefore crucial to ensure that targets reflect the extent to which a given sector is able to decarbonise, and their level of ambition set accordingly.

The need for sectoral roadmaps to net zero:

To ensure all sectors are able to maximise emissions reductions in a quick and cost-effective manner, BEIS must build on the Industrial Decarbonisation and Net Zero Strategies to deliver specific sectoral roadmaps for industry. These should provide certainty as regards the availability, timeline and cost of low carbon fuels and technologies such as CCUS for individual sectors, as well as support and incentives for the remanufacture of materials.

This should include establishing a priority use framework for genuinely sustainable biomass and low carbon hydrogen to ensure that it is used where it would have the greatest emissions reduction potential.

BEIS must also develop an explicit plan for extending low carbon infrastructure to dispersed sites, who will have comparatively less access to hydrogen and CCUS networks. This will be

³ BEIS (March 2021) *UK Industrial Decarbonisation Strategy* p.8

key to dispersed sites' eligibility for existing/planned government support, such as the business models for CCUS and hydrogen, for which many dispersed sites are likely to be ineligible, as they cannot demonstrate access to a transport and storage solution. Critically, once businesses have greater clarity on their route to decarbonisation, sector-level definitions can be developed in a more accurate manner.

11.4 Is existing demand for low emissions products sufficient for businesses to invest in decarbonisation in your sector?

Aldersgate Group members from across the sectors have remarked that there is a lack of demand for low carbon industrial products, which, among other factors, has stifled investment in low carbon production. Demand for low carbon products varies between sectors, and within a given sector, between products.

In many areas, such as the offshore wind sector, independent standards and procurement initiatives, alongside demand from customers for low carbon steel components, have been among the main drivers of progress towards a market for low emissions steel.⁴ For example, by signing up to initiatives such as Steel Zero, companies commit to procuring, stocking or producing 100% net zero steel across all operations by 2050 at the latest,⁵ driving demand for low carbon steel via private procurement. Similarly, ResponsibleSteel is an independent not-for-profit organisation that has brought together stakeholders from across the steel supply chain to develop an independent certification standard and programme.

Demand-side policy measures should meet industry initiatives and best practices to create uniform public and private procurement mandates and ambitious product standards that drive demand for low carbon products across all industrial sectors.

12. Have some businesses in your sector already undertaken some level of decarbonisation that new demand-side policy could help consumers distinguish between products with different climate impacts?

Businesses investing in decarbonisation need support to ensure that they can compete on upfront cost, particularly where lower carbon products are more expensive than comparable high carbon alternatives. Creating demand for low carbon products is a key way of creating a business environment more conducive to investment in low carbon production, which is important to scaling up production and bringing down costs. Making consumers aware of a product's lower emissions intensity and environmental impact, and therefore why there may be a price premium, can help to signal market leaders and increase demand for their products. This would also help to de-risk investment from early movers by providing visibility of market leadership. For example, applying a product label to car tyres can show consumers which option has more recycled content, or is more durable than a comparable alternative. Similarly, product labelling with levels of embodied emissions level would highlight the lower emissions intensity of steel products made in an electric arc furnace and/or products made with

⁴ However a significant amount of steel used for the UK's wind sector is still imported from abroad, often in the form of high carbon steel from China.

⁵ Edie (16 March, 2021) [Recycled materials and CCS: Aluminium industry plots pathways to net-zero](#) [accessed 26/02/2022]

remanufactured scrap steel – from food packaging to home appliances. For more information on the way in which product labelling affects consumer choices, please see question 13.

13. Do you think that a voluntary product standard and/or product label would be sufficient to change buyers' behaviour? Why/why not?

The need for voluntary then mandatory standards:

There is a risk that voluntary standards and labelling (when they are not set to become mandatory in the longer term) may only be taken up by leading firms, while those making comparatively less progress and/or investment in decarbonisation do not face an incentive or requirement to do so. Mandatory standards can drive progress across sectors by creating a regulatory requirement with which producers must comply. This said, voluntary standards should be introduced first to create better understanding of how particular regulatory tools will interact with industry, how business behaviour changes in response, and how government can best monitor and enforce such regulations.

Moving from voluntary to mandatory standards over time:

Once a more holistic understanding of the impact and implementation of a product standard is achieved, it should be phased-in as a mandatory standard with which all producers must comply. In this sense, BEIS should consider introducing mandatory standards that become more stringent over time, as industrial producers have greater access and/or options to the means to decarbonise, and the way in which a standard interacts with industrial production is better understood.

Crucially, the pace at which mandatory standards are phased-in should reflect the pace at which different sectors are able to respond/decarbonise in accordance.

Creating a level playing field:

Those making progress on decarbonisation, especially those moving first on investment in new technologies and processes and greater energy efficiency, should not be disadvantaged by competing on an unequal playing field.

As product labelling will mainly be relevant to consumers making purchasing decisions based on the emissions and environmental impact of a product, labelling mostly creates a demand signal for that same part of the consumer market. With many actors across industrial value chains facing pressure to base purchasing decisions on cost, product labelling alone would fail to drive a demand signal across the consumer base. Labelling and voluntary standards must therefore be followed by a mandatory standard applied across industry, or a given sector, to create a level-playing field, incentivise adoption of new technologies and best practices, and, crucially, de-risk investment in deploying the best available technologies and/or the cost of developing new, innovative production processes.

It is important to note that voluntary standards alone could lead to market distortions and a price premium on low carbon products versus high carbon alternatives, as the former may be seen as a luxury versus the cheaper 'norm'.

14.7 Bearing in mind your response to Q6.3 (Chapter 1), what other information or labelling would be helpful for differentiating and driving the market for products with a lower environmental footprint? This could include, or be instead of, embodied emissions.

Product labelling should include lifecycle emissions to provide greater visibility of a product's overall Global Warming Potential (GWP). BEIS should also consider the extent to which recycled material content and environmental impacts (such as the impacts on water and air quality, soil health, and ecosystem services such as flood defences and carbon sequestration) can be included in product labels. This is not only important to picking up the full range of impacts that a product may have, but also the benefits it may provide (or foregone environmental impact that is not picked up by an emissions label alone). For more information on the criteria that demand-side policies should include, beyond emissions, please see questions 6 and 6.3.

15. What impact could demand-side policy, such as low emissions product standards or procurement, have on your sector's supply chain, both upstream and downstream? Consider the following possibilities and include others if relevant:

Demand-side policies are crucial to growing the market for low carbon industrial products. By establishing a clear demand signal, actors across industrial supply chains can make investment decisions with the confidence that local industrial producers will be supplying to match demand. This will enable further investment in sectors across the economy.

For example, the UK's automotive sector will benefit from increased access to locally produced green steel when producing lower carbon vehicles. While there are important supply-side measures that government must take, such as taking steps to reduce industrial electricity prices and establishing sectoral pathways that outline the cost and availability of low carbon fuels and technologies, demand-side mechanisms are an important part of attracting private investment in low carbon solutions.

Product-level vs. project-level targets:

When designing green public procurement rules, government should consider the ways in which product-level targets and project-level targets interact, as each will affect the wider supply chain of a certain industrial product in different ways.

Product-level targets can be tailored to create demand for a specific product, such as low carbon cement. By setting a maximum threshold on the carbon content per unit of cement used in a project, government can motivate competing firms to invest in producing cement that meets this threshold.

Project-level targets on the other hand allow contractors to decide where they will make emissions reductions. In comparison to product-level targets, this can drive wider decarbonisation in areas across a project, including further down the supply chain or in other emissions scopes. They may also ease the administrative burden for government. However, it is possible that these may not achieve the objective of creating demand for low carbon industrial products as emissions savings may be made elsewhere. This is a delicate trade-off and BEIS should commission an evidence review to better understand whether project-level targets can be applied alongside individual product-level sub-targets to explicitly grow demand for particular industrial goods, and what impact this would have on industrial producers, as

well as other actors along industrial value chains, such as construction contractors and the waste management sector (both of whom may be affected by changes in procurement rules).

16.1 Are there other sectoral characteristics you think need to be considered?

Dispersed industrial sites have less access to low carbon infrastructure than clustered sites. For example hydrogen pipelines and carbon transport and storage infrastructure may not be available to many dispersed sites due to an inability to build the networks up to that site. This affects these sites ability to decarbonise, but also affects their ability to respond to carbon prices and bid for government business models for CCS and hydrogen.

Though procurement rules, standards and labelling must be consistent to ensure accuracy and trust, it is vital that government understand and respond to the varied needs of dispersed industrial sites to ensure that are able to compete on a level playing field with clustered sites. This is also vital the ability of the UK's heavy industries to decarbonise in a quick and cost-effective manner. For more information on the needs of dispersed sites and individual sectors please see question 9.

18. Could a 'mandatory for UK products only' approach be a reasonable first step in rolling out new mandatory standards or labelling policy?

Product standards should be applied to all products sold in the UK, regardless of whether the producer is based in the UK or abroad. The role of product standards is to create demand for low carbon products, however, they can also provide a level playing field for domestic and international producers.

Creating a level playing field:

It is likely that a 'mandatory for UK products only' standard would disadvantage UK producers that have to meet higher standards than importers. UK producers are already struggling to compete against key international competitors, with wholesale electricity prices between 25-44% higher than those in the EU⁶ at a time where UK industry is seeking to rely more on electricity to decarbonise.

Whilst taking the important step of creating demand-side measures, it is crucial that government does not place UK producers at a disadvantage compared to exporters into the UK market. Should domestic products be displaced by imports, the UK risks not only a loss of jobs and economic activity, but a greater level of imported emissions, should these goods come from jurisdictions with a higher carbon energy system and fewer rules regarding the emissions intensity and environmental impact of industrial production.

The role of a CBAM:

If product standards are applied to UK firms alone, it would be crucial for the government to implement instruments such as a Carbon Border Adjustment Mechanism (CBAM), however this alone would likely not be enough to level the playing field between UK and international producers. The cost to establish production processes that meet product standards may be higher than the carbon price differential between foreign and domestic producers, so

⁶ UCL, commissioned by the Aldersgate Group (September 2021) *Delivering Competitive Industrial Electricity Prices in an Era of Transition* p.7

producers could still face higher costs than international firms that are exempt from the product standard.

Driving global demand for low carbon products:

The UK does not meet all of its consumption of industrial products with domestic supply. By applying standards to all industrial products sold in the UK, government can help to use the UK's position as a consumer to drive global demand for low carbon industrial products from across the globe.

19. Under what circumstances, or for which products, is it essential to target both UK production and imports from the start?

All product standards should be applied to products produced both in the UK and internationally from the start.

It is crucial that product standards do not undermine UK industrial competitiveness and risk the closure or reduction of UK production. This would lead to a loss of economic activity and jobs, as well as carbon leakage. For more information please see question 18.

Beyond this, by applying product standards to all products sold in the UK, government can help to drive private investment in low carbon industrial supply chains. This would lead to a growth in economic activity and jobs in areas beyond the heavy industries alone. Having ambitious standards in place can therefore contribute to the UK's ability to harness the opportunities presented by net zero.

29. How should voluntary demand-side policies be designed and communicated to maximise uptake amongst manufacturers? Please consider:

Communicating demand-side policies:

It is vital that demand-side policies are prefaced by robust emissions accounting, reporting and verification mechanisms to build trust for both consumers and producers. Standards should be phased in over time, beginning as voluntary before becoming mandatory, to maximise industry's ability to anticipate the requirements of compliance with them. Reporting mechanisms should also put in place well before the introduction of mandatory standards, to ensure that emissions and environmental impact can be accurately verified prior to the implementation of such policies.

In addition to being clearly communicated in advance and then gradually phased in, there should be a clear indication that voluntary standards are likely to become mandatory. This was a crucial attribute of FSC and TCFD regimes: businesses knew they were voluntary initiatives that were likely to become mandatory, which gave them time to understand the steps needed to comply with the schemes once mandatory.

Utilising existing schemes when designing demand-side policy:

When designing the reporting and verification mechanisms needed to assess emissions and environmental impact in order to support product standards and labelling, BEIS should look to existing schemes to ensure they are making best use of current practices/data. For example, Environmental Product Declarations (EPDs) have been used to determine impacts beyond embodied emissions in products destined for the construction sector. Similarly, the Emissions

Trading Scheme (ETS) provides a valuable source of data on production emissions that should be utilised to develop an accurate reporting and verification mechanism.

Engaging stakeholders on the design of demand-side policy:

To understand the ability for industry to comply with product standards, BEIS should consult on the implementation of ambitious standards of a voluntary and mandatory basis. BEIS should also conduct cross-economy engagement with representatives from industry, academia, civil society and the not-for-profit sector. As thinking develops, forums such as those convened by BEIS ahead of the consultations on low carbon hydrogen and CCUS business models would be particularly useful, and should seek to engage a wide spectrum of interested parties including environmental groups.

31. In your view, are there further environmental criteria or sustainable practices that public contracting bodies could consider in individual commercial processes? Please provide examples and explain how these could support a market for low emissions industrial products.

Please see questions 6, 6.2, 6.4, 6.5, 14.7, and 18.

32. *When would demand-side policies ideally be introduced to best support decarbonisation of your sector or business? Please consider:

For more information on the phasing in of mandatory, as opposed to voluntary, mechanisms, please see questions 6, 6.4, 12, 13 and 29.